

# **Navajo Abandoned Uranium Mine**

## **Site Screen Report**

*This form is for use at the site of abandoned uranium mines (AUM) located on Navajo Nation lands. Applicable sites include all mine and mine features that have or have not undergone reclamation by the Navajo Abandoned Mine Lands Reclamation Program, including features, adits, pits and waste piles. Applicable sites also include all AUM sites listed in the USEPA CERCLIS database, all sites listed in the 2008 AUM GIS Report issued by USACOE and USEPA, all AUM sites on allotment lands associated with the Navajo Nation, and any and all AUM sites not listed in any database located on Navajo lands. Reconnaissance of any sites located on lands adjacent to Navajo lands that may be impacting Navajo lands will need to be coordinated with the authorities appropriate to those lands.*

*The purpose of the form is to ascertain the status and location of the identified AUM site, and record all immediate site information associated with the mine site. Decisions and recommendations on what additional steps are needed will be provided on a separate document.*

### **Black Point-Murphy Group AUM Site**

**Navajo AUM Western Region**

**Prepared by:**

**Weston Solutions, Inc.**

**Contract: W91238-06-F-0083**

**12767.063.599.1111**

**January 2011**

**Part I Site Identification, Location and Status****Site Names and ID numbers as applicable****Mine ID:** 463**Map ID:** W107**CERCLIS:** NNN000909111**Navajo Abandoned Mine Land Reclamation Program:** None**Local name / Aliases:** Murphy No. 1-17; Murphy Mine; Black Point**Chapter and local area:** State of Arizona**County:** Coconino **State:** Arizona**Lat/Long:** 35.7078920818 N / -111.312504877 W**Nearby road and highway:** Highway 89**Local Post Office:** Cameron, AZ**Surface Land Status: check one or more and provide ownership and contact information below****Tribal Trust Land**☐**Public lands**☐**Private**☐**Tribal Fee Land**☐**Bureau of Land Mgmt**☐**Allotment**☐**State**☒**Fee land**☐**Subsurface Mineral Rights:**

No information on subsurface mineral rights ownership was found in the EPA/AUM Database.

**Claim and operator information:**

The mine site surface land status is classified as Tribal Trust Land. Historical documents showed the operator of the mine as Howell and Glassock in 1956, and Howell, Sheppard, and Bosley in 1958. No additional ownership / lease information was identified in the EPA/AUM database.

**Number of residential structures within 200 feet of mine:** None**Estimated volume of mine waste onsite:** None

## Part II Summary of radiological readings

### Highest gamma radiation measurement:

28,224 counts per minute (cpm)

### Describe any other radiological measurements:

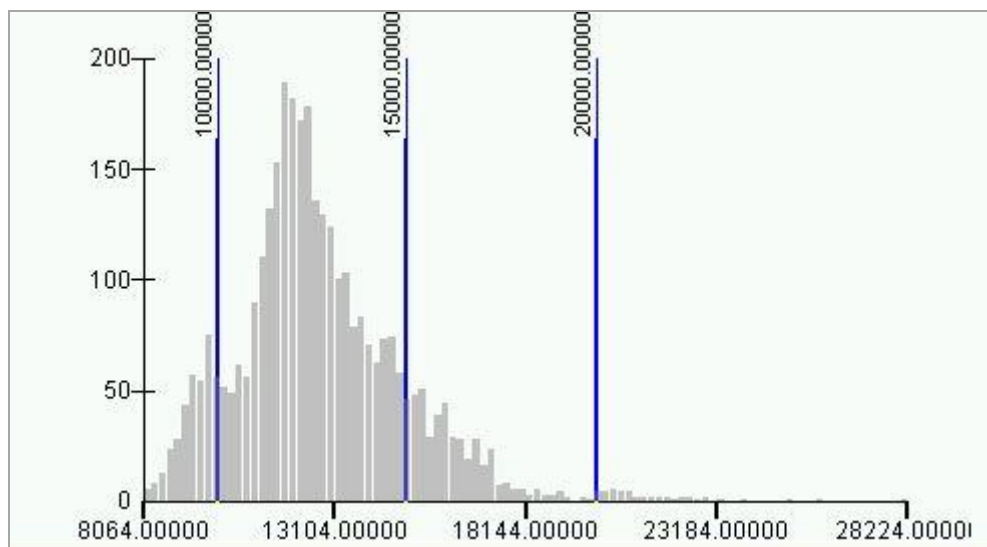
A total of 3,370 gamma radiation measurements were collected from the mine site, ranging from 8,064 cpm to 28,224 cpm. The measurements collected at the site and pond 0.15 mi north of the site were found at background levels, but measurements collected from an isolated hot spot along the road 0.4 miles north of the site were found at a maximum level of 50,000 cpm. The measurements are represented in Figures 1 and 2.

**Background Readings:** 11,605 cpm

**Background Average:** 11,605 cpm

### Distribution Chart and Statistics:

The following chart and statistics were generated by ESRI ArcGIS 9.3.1, and show the general distribution of the site gamma radiation measurements. The horizontal X axis represents the gamma radiation reading levels in cpm (lowest levels to the left). The vertical Y axis represents the frequency of each gamma radiation level.



Count:	3370
Minimum:	8064.00000
Maximum:	28224.00000
Sum:	42889246.00000
Mean:	12726.77923
Median:	12383.00000
Standard Deviation:	2244.39889

### **Part III      Status of Reclamation and Mine Waste**

**The following information was obtained from the Navajo Abandoned Mine Land Reclamation Program (NAMLRP) Point Features Database:**

**NAMLRP Status of the mine site: Reclaimed : Unknown      Waste Pile onsite : No**

**NAMLRP Project Number: None**

**NAMLRP Mine features: None**

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**The following information was obtained from field observations collected during the 2010 site screening:**

**Provide description and status of all mine sites and features at site. Include all waste piles, adits, pits and other features, and indicate whether they are open, closed, covered, capped, buried or unreclaimed. Indicate approximate size, shape and extent, including description of any reclamation caps. Note condition of all caps.**

#### **Observed reclamation work and status:**

##### **Adits**

None

##### **Waste Piles**

None

##### **Pits**

None

##### **Shafts**

None

##### **Other Debris and Mine Features**

Fenced in area in NW portion of site

## Part IV

### Site observations and Environs

**Observed Structures: list number of and describe human habitation status of structures at the following distances from mine:**

**0 to 200 feet:** None

**200 feet to 0.25 mile:** None

**Observed Public or commercial structure: list and describe all schools, clinics, Chapter Houses, places of business and any other structure used by members of the community at the following distances:**

**0 to 200 feet:** None

**200 feet to 0.25 mile:** Gravel mine approximately 0.25 mi N of site

**Levels measured around the perimeter(s) of the identified structure(s):**

Background levels near gravel mine and pond, road 0.25 mi N of gravel mine had a small section up to 50,000 cpm

**Observed water sources: list the number and type of wells and surface water sources that are potentially used for human consumption at the following distances from the mine:**

**0 to 0.25 miles:** Pond associated with gravel mining pit approximately 0.15 mi N of the site, all levels background; Little Colorado River Basin adjacent to the E of the site

**0.25 miles to 4 miles:** None

**Sensitive environments: note and describe all sensitive environments located within visible range of the mine site, including: wetlands, endangered species, habitats and approximate locations of sites that may be under protection of the government of the Navajo Nation.**

Little Colorado River Basin adjacent to the E of the site, possible wetlands

**Known Site History: include information from interviews with Chapter officials and residents. Note information on mine ownership, type of mining operation, period of operation, known amount of production, and any other information as provided.**

Black Point-Murphy Group mine consists of an area of 28,976.73 m<sup>2</sup>. The mine was identified as being operational from 1956 to 1958. Historical documents showed the operator of the mine as Howell and Glassock in 1956, and Howell, Sheppard, and Bosley in 1958. While operational, the mine had a total production volume of 1,769 tons. No other historical information or any additional ownership / lease information was identified in the EPA/AUM database.

## **Part V            Response Action Summary**

### **Summary of Evaluation Factors:**

#### ***Accessibility:***

**Was the mine easily accessible to potential human activity?**

Yes

#### ***Radiological Measurements:***

**Were any gamma radiation measurements collected at the mine greater than two times the site-specific background levels?**

No

#### ***Waste Piles:***

**Were any unreclaimed waste piles observed at the mine with gamma radiation measurements greater than two times the site-specific background levels?**

No

#### ***Structures:***

**Were any structures observed within 200 feet of the mine?**

No

#### ***Potential Drinking Water Sources:***

**Were any potential drinking water sources observed within 4 miles of the mine?**

Yes

#### ***Reclamation:***

**Was the mine reported to be previously reclaimed, or did the mine appear to be reclaimed?**

Unknown (there is a fenced in area in the NW portion of the site)

## Part VI      Photos



Photo 1. Black Point-Murphy Group mine site



Photo 2. Black Point-Murphy Group mine site





Photo 3. Black Point-Murphy Group mine site, fenced in area



Photo 4. Black Point-Murphy Group mine site, alongside Little Colorado River Basin





Photo 5. Black Point-Murphy Group mine site, alongside Little Colorado River Basin



Photo 6. Black Point-Murphy Group, pond associated with gravel mine 0.15 mi north of site



Photo 7. Black Point-Murphy Group, road with elevated gamma readings, 0.4 mi north of site

**Part VII      Contacts Reports and Information**Name: Stanley Edison (928) 871-6861Eugene Esplain (928) 871-7331Title or official role (if any) Navajo EPA Superfund ProgramAddress PO Box 2946, Window Rock, AZ 86515Information provided Lead Regulatory Agency

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Name \_\_\_\_\_

Title or official role (if any) \_\_\_\_\_

Address \_\_\_\_\_

Telephone number \_\_\_\_\_

Information provided \_\_\_\_\_

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Name \_\_\_\_\_

Title or official role (if any) \_\_\_\_\_

Telephone number \_\_\_\_\_

Information provided \_\_\_\_\_

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Name \_\_\_\_\_

Title or official role (if any) \_\_\_\_\_

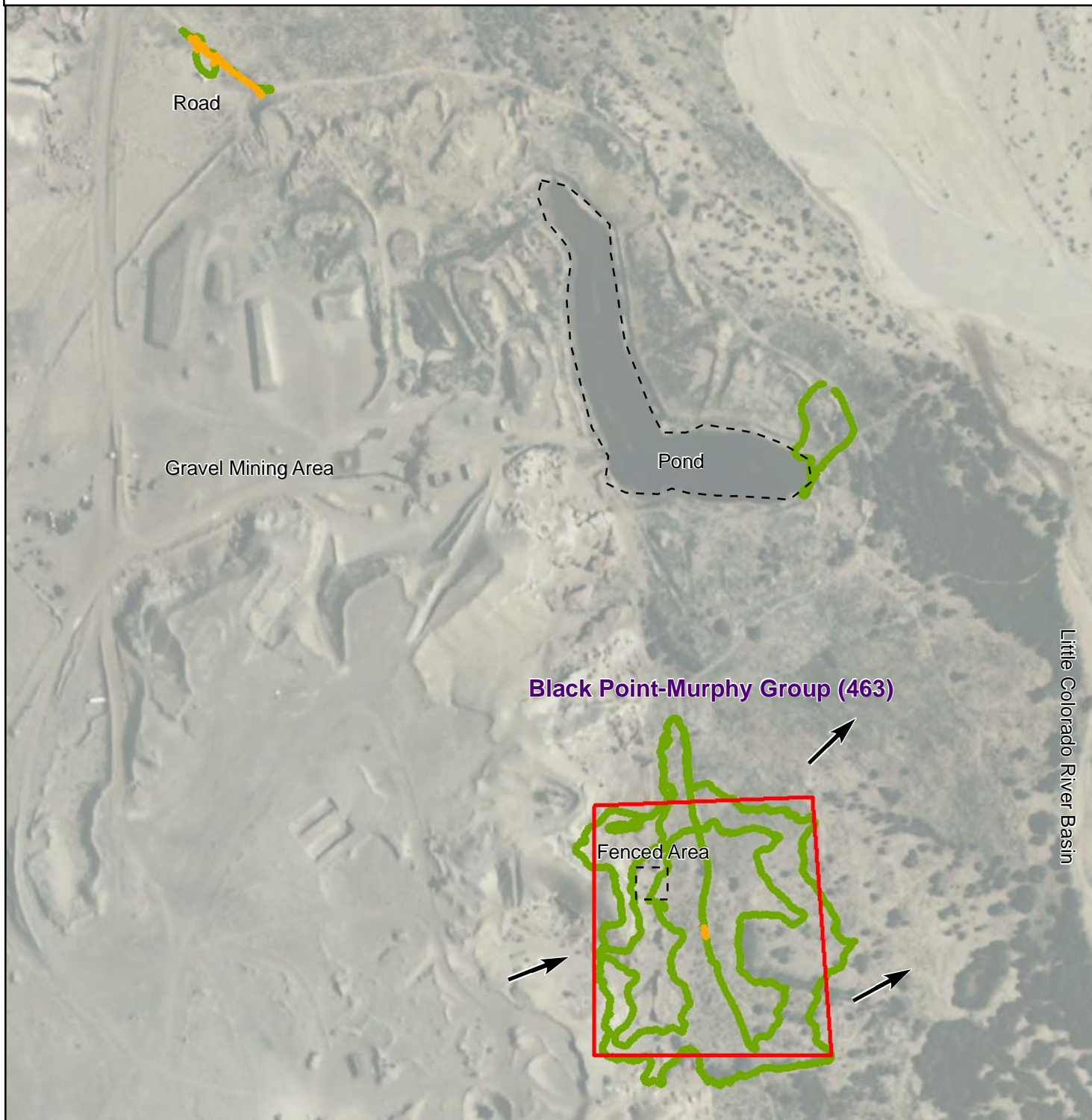
Telephone number \_\_\_\_\_

Information provided \_\_\_\_\_

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**Figure 1 - Gamma Radiation Measurements, Above Two Times Background  
Black Point-Murphy Group (463)  
Coconino County, Arizona**



## Legend

### Gamma Radiation Measurements

- < 2X Background
- > 2X Background

Gamma survey conducted 11/2010  
Measured as counts per minute (cpm)

Average background 11,605 cpm

→ General Slope Direction

□ Mine Site Boundary

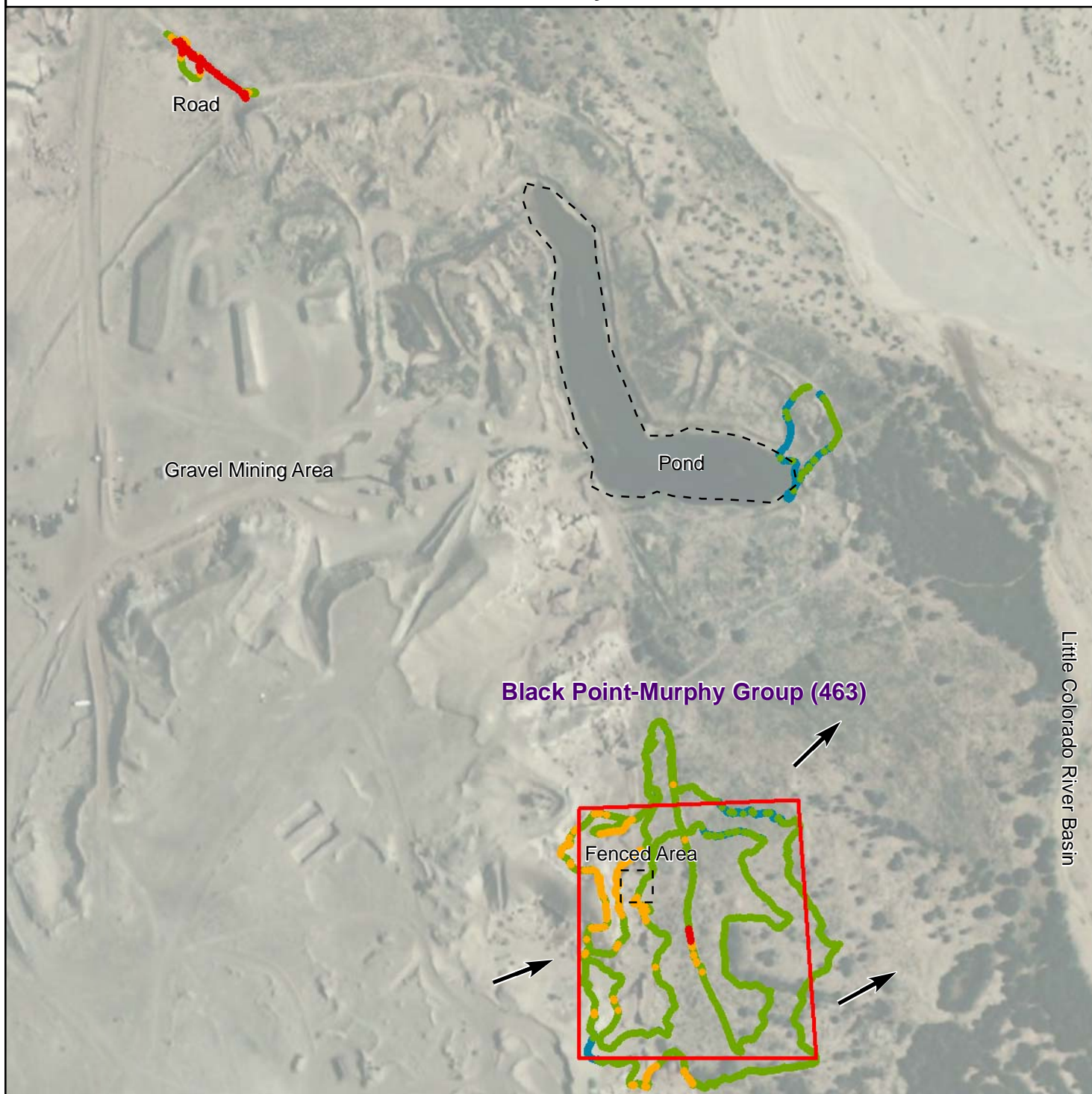


0 400 Feet



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**Figure 2 - Gamma Radiation Measurements  
Black Point-Murphy Group (463)  
Coconino County, Arizona**



## Legend

### Gamma Radiation Measurements

- 0 - 10,000
- 10,000 - 15,000
- 15,000 - 20,000
- 20,000 - 50,000
- 50,000 - 100,000
- > 100,000

→ General Slope Direction

□ Mine Site Boundary



0 400 Feet



Gamma survey conducted 11/2010  
Measured as counts per minute (cpm)

Average background 11,605 cpm

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